


REV A	APPLICATION			REVISIONS		
	NEXT ASSEMBLY	FINAL ASSEMBLY	REV	DESCRIPTION	DATE	APPROVED
SH 1		RT-406F	A	INITIAL RELEASE	8/9/00	V. Wallace
DWG. NO. 150-040785	<p>THIS COVER SHEET IS FOR WULFSBERG ELECTRONICS DIVISION INTERNAL USE. IT IS NOT TO BE PUBLISHED WITH THE DOCUMENT IT DESCRIBES</p>					
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APPROVALS	DATE	TITLE				
DRAWN Bill Patt	8/9/00	WULFSBERG SERVICE BULLETIN WSB RT-406F-3 (ADD NON-STANDARD CTCSS TONE)				
CHECKED E. McCluskey ENGINEER	7/13/00	SIZE	CAGE CODE	DWG. NO.	REV	
T.Tammen	8/11/00	A	1B7G3	150-040785	A	
ISSUED V. Wallace	8/18/00	SCALE NONE			SHEET 1 OF 1	



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SERVICE BULLETIN

EQUIPMENT: RT-406F

DATE: June 14, 2000

BULLETIN NUMBER: WSB RT-406F-3 Revision A

APPLICABILITY

This Service Bulletin applies to all RT-406F Flexcomm I Transceivers, P/N 400-012785-XX.

REASON

This bulletin describes the procedure used to add a non-standard CTCSS Tone to Flexcomm I transceivers.

EFFECTIVITY

Modifications described in this document are to be performed on RT-406F Flexcomm I Transceivers as required by customer.

REFERENCES

RT-406F Maintenance Manual, P/N 150-1332-000, Rev. 0

DESCRIPTION

This Service Bulletin explains how to use a Communications Specialists (Com-Spec) Model HHP-1 Programmer to program a Com-Spec IC-110 EEPROM for a non-standard CTCSS Tone. It also explains how to read the tone stored at a user-specified memory address on the EEPROM.

The EEPROM is identified as component U14 on the RT-406F Audio Board (refer to Figure 3.1-6 in the RT-406F Maintenance Manual). Its Wulfsberg Part Number is 106-714330-01.

The programming phase of this modification consists of removing the Com-Spec IC-110 EEPROM from the RT-406F Audio Board, inserting it into the ZIF socket of the HHP-1 Programmer, setting the tone frequency, crystal selection, and address switches, and pressing the START button to complete the programming cycle.

The verification phase of this modification consists of setting the switches to the proper crystal selection and address, inserting the IC-110 EPROM into the programmer's ZIF socket, connecting a frequency counter to the programmer's audio jack, pressing the START button to complete the read cycle, and reading the tone frequency on the frequency counter.

COMPLIANCE

As required by customer.

APPROVAL

This modification does not affect the original approval.

WARRANTY INFORMATION

The procedure described in this Service Bulletin is considered a product enhancement and is not covered under warranty.

MODIFICATION PROCEDURE

CAUTION

Any disassembly/assembly must be done at a static-safe workstation. Removed modules should be placed in antistatic bags when not installed in the unit.

1. Locate the IC-110 EEPROM (component U14) on the RT-406F Audio Board. Use an IC extractor tool to remove the EEPROM from the board.
2. Set the first five switches (labeled TONE FREQUENCY) located at the top of the HHP-1 Programmer to the desired tone frequency. For example, to program a 250.3 Hz tone, the switches should be set as follows from left to right:

Switch 1:	0
Switch 2:	2
Switch 3:	5
Switch 4:	0
Switch 5:	3

3. Open the ZIF socket located near the middle of the HHP-1 Programmer by moving the lever to the UP position.
4. Insert the IC-110 EEPROM in the ZIF socket. Pin 1 (see Figure 1) should be nearest to the lever (the printing on the face of the IC-110 will be upside down).
5. Close the ZIF socket by moving the lever to the DOWN position.
6. Connect a frequency counter to the HPP-1 audio jack located on the right side of the programmer's case.
7. Press and release the START button. The read cycle takes approximately 6 seconds. The HHP-1 beeps twice and turns off when it is finished.

The frequency counter displays the CTCSS tone frequency programmed for the address location specified in step 2 above.

8. Open the ZIF socket by moving the lever to the UP position and remove the IC-110 EEPROM.
9. Replace the IC-110 EEPROM in its socket at location U14 in the Audio Board.

UNIT TESTING PROCEDURE

Complete a performance test of RT-406F Receiver CTCSS Squelch and Transmitter CTCSS in accordance with Sections 2.4.4 and 2.4.8 of the RT-406F Maintenance Manual.